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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,398	10/09/2001	Mary P. Kusko	POU920010122US1	6096

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EXAMINER

TABONE JR, JOHN J

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 01/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/973,398

Applicant(s)

KUSKO ET AL.

Examiner

John J Tabone, Jr.

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

DETAILED ACTION

1. Claims 1-20 have been examined.

Drawings

2. Figures 5 and 6 are objected to under 37 CFR 1.84(o) failing to include proper legends. 37 CFR 1.84(o) states: "suitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawings. They should contain as few words as possible." No new matter should be entered.

Claim Objections

3. Claim 4 is objected to for improper grammar. The phrase "is may be" on line 7 is improper grammar and for the purpose of further examination, the examiner will read this phrase as reading " maybe" as to be consistent with similar claims, 11 and 17, lines 8 and 7, respectively.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 and 15:

Lines 9 and 10 are vague and indefinite. The claim would be more clearly if changed from "said select mechanism being capable of switching a source path of input data to said second register from a normal data path to said parallel data path" to "said select mechanism being capable of switching a source path of input data to said second register between a normal data path and said parallel data path".

Line 11 and 12 states "wherein, when said parallel data path is selected as said source path of input data to said second register, data loaded into said second register matches data". It is not clear where the data is coming from or which data is used. Further clarity is required.

Line 12 states "input data to said second register, data loaded into said second register matches data". The verb matches is indefinite and of wrong use. A match implies a comparison is performed from two different sources. Figure 2 shows that this is the same data/source. Correction is required.

Claim 8:

Line 7-9 states "wherein each of said plurality of select mechanisms allows test data loaded into the first register to match test data loaded into a corresponding one of the subsequent registers." The verb match is indefinite and of wrong use. A match implies a comparison is performed from two different sources. Figure 2 shows that this is the same data/source. Correction is required.

Also, it is not clear by the claim language how the test data of the first register is to match the test data loaded into a corresponding one of the subsequent registers. Further disclosure is required.

Claim 10:

This claim is rejected because it depends on claim 8 and contains the same problem of indefiniteness.

Claim 9:

Lines 7-9 are vague and indefinite. The claim would be more clearly if changed from "said plurality of select mechanisms each being capable of switching a source path of input data to each of the subsequent registers from a normal data path to a corresponding one of said parallel data paths" to "said plurality of select mechanisms each being capable of switching a source path of input data to each of the subsequent registers between a normal data path and a corresponding one of said parallel data paths".

Line 10-12 states "wherein, for each of the subsequent registers having one of said parallel data paths selected as said source path of input data thereto, the data loaded therein matches data loaded into the first register". It is not clear where the data is coming from or which data is used. Further clarity is required.

Line 11 and 12 states "parallel data paths selected as said source path of input data thereto, the data loaded therein matches data loaded into the first register". The verb matches is indefinite and of wrong use. A match implies a comparison is performed from two different sources. Figure 2 shows that this is the same data/source. Correction is required.

Claim 2:

This claim is rejected because it depends on claim 1 and contains the same problem of indefiniteness.

Claim 16:

This claim is rejected because it depends on claim 15 and contains the same problem of indefiniteness.

Claim 3:

Claim 3 recites the limitation "said register" on lines 2 and 3. It is not clear which register this claim is referring to.

Claim 4, 11, 17:

Regarding claims 4, 11 and 17, the phrase "may be" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. It is not clear whether the data loaded into the said second register will mismatch or not.

Claims 5-7:

These claims are rejected because they depend on claim 4 and contain the same problems of indefiniteness.

Claims 12-14:

These claims are rejected because they depend on claim 11 and contain the same problems of indefiniteness.

Claims 18-20:

These claims are rejected because they depend on claim 17 and contain the same problems of indefiniteness.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motika et al. (US-5983380).

Claim 1, 15:

Motika discloses a LFSR 12 (first register) and SRI data (parallel data) connecting to the LFSR 12 and a selecting mechanism that is connected to a BS chain register (second register). Motika does not explicitly disclose the function of the selector, however, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the selector switches between the SRI data input and data coming from the LFSR. The artisan would be motivated to do so for the switching the SRI data (parallel data) to be realized at the BS chain (second register). (See Figure 1).

Claim 8:

Motika discloses an LRSR 12 (first register), and a plurality of scan registers 128, 130, 132, 134, 136. Motika also discloses a plurality of selectors that corresponds to the plurality of registers. Motika does not explicitly disclose the function of the selectors, however, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the selectors switch between the SRI data inputs and data

coming from the LFSR. The artisan would be motivated to do so for the switching the SRI data (test data loaded into first register) to be realized at the BS chain (second register). (See Figure 1).

Claim 9:

Motika discloses a LFSR 12 (first register) and SRI data (parallel data) connecting to the LFSR 12 and selecting mechanisms that are connected to a plurality of scan chain registers (second register). Motika does not explicitly disclose the function of the selector, however, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the selectors switch between the SRI data inputs and data coming from the LFSR. The artisan would be motivated to do so for the switching the SRI data (parallel data) to be realized at the plurality of scan chain registers (second register). (See Figure 1).

Claim 2, 10, and 16:

Motika teaches that the minimum size of the array (first register) needs to be configured for the length of the longest scan chain (second register). (See Col. 6, lines 39-42).

Claim 3:

Motika discloses unloading the responses captured in the scan chain registers into the multiple input signature register (MISR) 16. (See Figure 1 and col. 5, lines 1-3).

Claims 4, 5, 11, 12, 17, 18:

Motika does not explicitly disclose a bit-flip mechanism. Motika does disclose a Weighted Random Pattern (WRP) generation function block 144 which incorporates

Art Unit: 2133

both a bit-flipping (claims 4, 11, 17) and weight function (claims 5, 12, 18) with the WRP. Two XOR gates 148, 150 generate the complement or inversion probability signal as determined by the SRI bit. (See col. 6, lines 12-14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to name Motika's WRP as the combination of the bit-flip logic" and "weight logic". One of ordinary skill in the art would be motivated to so because having Motika's WRP as a combination of the bit-flip logic" and "weight logic" would not affect its function.

Claims 6, 13, and 19:

Motika teaches in Figure 4 that the Weighted Random Pattern (WRP) generation function block 144 has a multiple input AND gate coupled to the LFSR 12 for receiving random patterns.

Claims 7, 14, and 20:

Motika teaches in Figure 4 of an XOR gate has input from the multiple input AND gate and SRI data (parallel data path).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,323,400 to Agarwal et al.

U.S. Patent No. 5,349,587 to Nadeau-Dostie et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J Tabone, Jr. whose telephone number is (703)305-8915. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (703)305-9595. The fax phone number for the organization where this application or proceeding is assigned is (703)305-3718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

JJT




CHRISTINE T. TU
Primary Examiner